TITLE: STATEMENT OF WORK FOR MASTER WELL DRILLING

Part I

Statement of Work for

MASTER WELL DRILLING CONTRACT

Revision 1

December 9, 2005

Prepared by: Robert D. Miles

APPROVALS	PRINT NAME	SIGNATURE
BTR*	Chris Wright	Chris Wright /s/
Contracting Officer**	Rob Miles	Approval to be made in PassPort

* Approval for Technical Content **Concurrence for Contractibility

Rev. 1. Clarified waste management labeling and inventory instructions, and Contractor responsibility for site visits by suppliers and subcontractors. Reviewed by Bruce Ford, Brian Von Bargen, Chris Wright, Dennis Adler, and Mike Vermillion.

TITLE: STATEMENT OF WORK FOR MASTER WELL DRILLING

SUPPLEMENTAL TECHNICAL APPROVAL PAGE

FOR SOW#DRILL2, TITLE: MASTER WELL DRILLING, Rev. 0

Signature Required	Signature Not Required	ORGANIZATION	PRINT NAME	SIGNATURE
X		End-User / Requestor	C.S. Wright	C.S. Wright /s/
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X		Other		

* Obtain approval when required by HNF-RD-8635, *Review of Technical Documents.*

**** For engineering, construction, decommissioning, or complex managed activities (including changes if a revision to scope),** obtain the approval of the Project Operations Center, Manager of Projects Management / Construction.

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PART I – STATEMENT OF WORK

1.0 INTRODUCTION / BACKGROUND

The majority of wells to be drilled are ground water monitoring or resource protection wells. However, characterization borings, groundwater extraction wells, and geotechnical boring are included in this scope of work. Decommissioning activities will include preparation, decommissioning, and other related work necessary to decommission existing wells. All drilling and decommissioning of any wells will be performed on and around the Hanford Site.

2.0 DESCRIPTION OF WORK – GENERAL

For all drilling contract releases awarded under this Master Agreement, the Contractor shall furnish all necessary labor, technical and professional services, supervision, materials, tools, equipment, consumables, and payment of any applicable taxes to perform all operations necessary and required to perform the well drilling or well decommissioning services as directed by FH.

If a specific contract release requires the use of Government Furnished Equipment (e.g., Government Furnished Rig for contaminated sites), the Contract Release (or GP-12, General Provisions for Government Owned Equipment) will state specifically what GFE is available for use and the conditions for its usage.

This is a generic description of work to be performed under the Master Agreement. Specific Contract Release requirements will be defined in the contract releases. These provisions are applicable to all contract releases and tasks, and will not be reiterated in individual contract releases.

3.0 DESCRIPTION OF WORK – SPECIFIC (SCOPE OF WORK)

3.1 Preparation Activities

Contractor shall be responsible for the following preparatory activities.

A. All submittals in accordance with the contract release shall be submitted to the Contracting Officer prior to start of work.
B. Changes to a Contractor's deliverables, that have not been accepted by Fluor Hanford Inc. (FH) as complete shall be re-submitted using the SDSF form and in accordance with a Contractor's FH approved Quality Assurance Program.
C. Prepare and submit Washington State Department of Ecology (Ecology) Notice of Intent to construct a resource protection well (start card) (ECY 040-22) and Ecology fee in accordance with the WAC 173-160-420 with a copy of the forms and a copy of the payment or receipt to the BTR. The BTR shall supply the well identification numbers to be used on the start cards.
D. Prior to start of drilling the Contractor shall prepare and submit to the BTR for FH's review, reports showing workers meet the Contractor's required training, medical

exams, bioassay, appropriate dosimeter as specified and qualification requirements (See Section 5.1).

E. Ensure equipment, materials, and personnel are ready for the execution of the applicable well drilling contract release.
F. The Contractor shall ensure that Suspect/Counterfeit items, such as non-compliant shackles, fasteners with head marks shown on the S/CI fastener head work list are not brought onto the Hanford Site.
G. Ensure Hoisting and Rigging requirements are met in accordance with section 6.6.
H. Ensure all Contractor-supplied tools and equipment are in good working order and free form obvious and known defects, malfunctions and disrepair (e.g., oil leaks, broken and/or missing parts) upon arrival at the job site.
I. Provide MSDS Sheets for all chemical products.

3.2 Mobilization

Contractor mobilization shall include delivering to the job site clean uncontaminated equipment and qualified workforce sufficient to sustain the required work activities. The Contractor shall secure all necessary permits, driller registration, medical exams, bioassay, appropriate dosimeter as specified and training required prior to performing any on-site work.

A. The Contractor shall mobilize drill rigs, required equipment, and materials to the work site.
B. The sites shall be set up in accordance with the Contractor's Job Safety Analysis / Activity Hazard Analysis as specified in FH document HNF-23100, and shall receive concurrence from both the BTR and Project Safety. The Contractor shall:

    1. Post appropriate signs (e.g., hard hat, safety glasses, hearing protection, and footwear) for the job sites.

    2. Control access to the work site.

    3. Coordinate site setup with BTR to ensure compliance with traffic area restrictions.

3.3 Well Drilling

Contractor shall perform well drilling services in accordance with WAC 173-160, Hanford Site variances, and as defined in contract releases under this Master Agreement.

The holes will be drilled in unconsolidated clays, silts, sands, gravel, boulders, semi-consolidated materials, or hard cemented layers containing these materials. Basalt rock may be encountered on deep wells. The method of drilling shall be selected by the Contractor from the following list of drilling methods, and may vary between boring/well locations, and with depth at one boring well location. Any combination of the following drilling methods may be utilized at an individual well/boring location. FH may specify use of a specific drilling method for a specific contract release.

- Auger Drilling Method
- Air Rotary Drilling Method
- Percussion (including dual wall) Drilling Method
- Sonic Drilling Method
- Cable-Tool Drilling Method
- Dual Rotary Method
- Direct Push/Cone Pentrometers

The Contractor's selected equipment and methods shall be capable of advancing through the anticipated geologic formations, and maintaining an open borehole, free of drill cuttings and other obtrusive materials to the depth explored and at individually selected sampling depths. In addition, the Contractor's selected equipment and method shall be capable of installing and removing all temporary casing. Drilling aids such as bentonite, other clay-based agents, water, or any foreign matter capable of affecting the characteristics of the sediment samples or ground water shall not be placed in the well without prior approval of FH. Lubricant used for making up drill strings or other down-hole tools shall be environmentally compatible. Hydrocarbon based lubricants are not acceptable.

Wells shall meet the following test for straightness. The well shall be tested for straightness and interior smoothness with the bailer, or any other device, having a minimum continuous diameter not more than one inch diameter smaller than the diameter of the smallest temporary well casing installed. The testing device shall be lowered into the hole to the bottom of the hole and shall descend freely of its own weight and then be withdrawn without binding. The length of this tool or string shall be a minimum of 20 ft.

The test for straightness shall be made in the presence of the FH BTR or Delegate
In the event the Contractor's well does not meet the specification requirements and the Contractor is unable to pull back the temporary casing, FH may direct that the well be abandoned at the Contractor's expense, or that an approved alternative to completing the well be developed. The well abandonment shall meet Washington Administrative Codes173-160, applicable Ecology guidance and waivers, and FH requirements. Any boring rejected shall be supplemented by another boring adjacent to the first. Penetration to the depth where the last satisfactory sample was obtained may be made by any method selected by the Contractor which will permit completion of the new boring below the elevation where the last satisfactory sample was obtained in the abandoned boring. Below the elevation where the boring was abandoned, penetration shall be made and samples taken in the supplementary boring in the same manner specified for the original boring

3.4 Well Completion

The Contractor is responsible for procuring and installing all permanent material in accordance with the Contract Release. Well screens shall be flush joint threaded couplings with Viton O-ring seals or approved equal, and shall be compatible with the

casing couplings, or by use of an adapter. The screen for well completions shall be continuous wire wrap construction, stainless steel monitoring screen or other approved type. FH will select the screen slot size. A stainless steel sump and bottom cap shall be provided.

Centering Guides or Centralizers shall be of the same type of stainless steel as the well casings. Centralizers welded to the casing at the factory are preferred. In order to fit onto telescoping screen, centralizers can be modified (i.e., cut or bent) as necessary with the approval of FH. Bolt on centralizers can be attached in the field. Welding of stainless steel centralizers to the stainless steel casing in the field is prohibited. Centralizers are not required where dual wall drilling systems provide equivalent centralization of the permanent casing.

When the well screen length is ∃5 ft, a centralizer shall be placed at the bottom of the screen and at intervals of 20 ft (or less) throughout the screen. Place a centralizer at the bottom of the screen and at the bottom of the casing (or at the top of the screen) and at intervals of 40 ft (or less) throughout the casing string for shallow unconfined groundwater monitoring wells. Deep and confined aquifer wells constructed with Schedule 40 or better permanent casing specified in this specification are required to have centralizers in the screen interval as above and at a maximum, 80 ft (or less) throughout the remainder of the casing string. A centralizer is not required at the bottom of a channel pack screen.

A. Filter Pack

Primary filter pack and secondary filter material shall consist of kiln dried, uniform, rounded and spherical grains of sand composed of at least 95% silica (SiO2). The filter pack sand shall have a uniformity coefficient (the quotient of the 60% passing, D60 size, divided by the 10% passing, D10 size) between 1.0 and 2.5 (FH will select mesh size). The sand materials shall be packaged in sacks and shall be protected to prevent contamination and water damage. Each sack shall be clearly labeled as to the mesh size of the sand contained.

When installing bentonite, sealing with coated bentonite pellets and/or chunk bentonite, no secondary filter pack is required.

B. Secondary Filter Pack

The secondary filter pack, comprised of at least 95% silica (SiO2), shall consist of two different sieve sizes of sand including: 20 to 40 mesh and 40 to 140 mesh (commonly called 100 mesh). The materials shall be covered with plastic to prevent contamination and water damage. Each sack shall be clearly labeled as to the mesh size of the sand contained.

C. Bentonite Pellet Seal

A bentonite sealing material constitutes the annular bentonite plug as required by WAC-173-160. Bentonite sealing material shall be nominal 1/4- to 3/4-in.-diameter pellets or chunks consisting of untreated (no surfactants, polymers or peptides) sodium bentonite, packaged in plastic-lined sacks or covered 5 gal plastic buckets. Each sack shall be clearly labeled as to the pellet size. The dry bulk density shall be at least 80 lbs/ft3.

When placing Bentonite Annular Seal Material below static water level, the following may be used upon approval by the **FH:**

Bentonite sealing material with nominal 1/4- to 1/2-in.-diameter manufactured pellets consisting of sodium bentonite and coated with a biodegradable nonstick sugar coating. The coating shall allow for a 30 minute delay in hydration and expansion. The pellets shall be the equivalent of Polymer Drilling Systems Company (El Dorado, Arkansas) Model TR 30 Pel Plug bentonite pellets. Pellets shall be packaged in plastic lined sacks or covered plastic buckets. Each container shall be clearly labeled as to pellet type and size.

D. Bentonite Annular Seal Materials

- Bentonite Grout: Bentonite grout shall be made from a sodium bentonite powder and/or granules for use below the water table. The bentonite shall have a specific gravity of 2.5, a dry bulk density of 55 lb/ft3 or greater, and a ph of 9 to 10.5. Raw water from an approved source shall be mixed with these powders or granules to form a thick (40-60 second Marsh Funnel) bentonite slurry. The annular space shall be grouted with this bentonite slurry. Bentonite grout shall be mixed and used according to manufacturer's specifications and recommendations.

  Bentonite grout (slurry) shall not be used to seal known water bearing zones.

- Granular Bentonite: Granular bentonite shall be coarse granular sodium bentonite crumbles, 8 - 20 mesh, labeled and packaged.

E. Cement Grout

Cement grout shall be of the nonshrinking type and shall consist of a mixture of Portland Cement (ASTM C-150) and water in the proportion of 5 to 6 gal of clean water per bag (94 lb or 1 ft^3) of cement.

When cement grout is used in sealing the formation or the wellbore while drilling, it shall be set in place 72 hours before additional drilling takes place. Additives to reduce setting time shall be approved by the **FH**. When cement grout is used during well completion, it

shall be set in place a minimum of 8 hours before additional well completion activities take place.

3.5 Well Development

When applicable, the Contractor is responsible for meeting well development requirements in accordance with the Contract Release.

3.6 Sampling Pump Installation

When applicable, the Contractor is responsible for installing sample pumps as specified by the Contract Release.

3.7 Surface Construction

Surface construction, consisting of protective casing, protective guard posts, and cement pad must be emplaced prior to job completion. Surface protection for each well, when required by the contract release, shall be installed in accordance with Washington Administrative Code (WAC) 173-160-420, with modification provided by the contract release (if any), see Attachment A.

Concrete for surface construction shall be composed of either premixed, bagged concrete, or a mix of 5 sacks of cement/yd^3. An air entraining agent shall be added to prevent freeze/thaw cracking (6% ∀2%). Additives (other than air entraining agents) or borehole cuttings shall not be mixed with the concrete. The concrete pad should be steel reinforced. The steel reinforcement should be of sufficient size (6x6 - W1.4 x W1.4 Welded Wire Fabric [WWF] minimum), configuration, and placement to minimize damage to the pad during normal use for its expected lifetime (Ref. ACI 318).

Surface protection shall be as stated in subcontracts awarded under this master agreement but typically will be installed in an “above ground” manner per WAC 173-160-420 with the following additions/modifications:

- The protective casing shall be a minimum of 2” larger in diameter than the permanent casing.
- Protective casing shall rise approximately 3 feet above the ground surface.
- Permanent casing shall rise to approximately one foot below the top of the protective casing.
- Protective casing shall have a lockable well cap that extends approximately 15 inches above the top of the protective casing.
- Concrete pads shall be 4 feet by 4 feet square by 6 inches thick, reinforced with 6” X 6” W1.4 x W1.4 welded wire fabric.

- Four protective posts shall be set in the corners of the concrete pads. Posts shall meet WAC 173-160-420 with one post being removable. Posts shall be primed and painted yellow as per in ANSI Z53.1, Safety Color Code for marking physical hazards. Primer and paint materials will conform to the following federal specifications:

  1. Primer for metal parts TT-P-645
  2. Finish enamel TT-E-489F, Class A

- A brass survey marker, stamped with the well identification number and well name shall be installed on the north side of the concrete pad, approximately 1 foot from the well. The survey marker shall be a brass 3-in. diameter domed marker.
- Specific wellhead protection requirements will be provided in individual contract releases.

3.8 Well Decommissioning

When applicable, Contractor shall perform well decommissioning services in accordance with WAC 173-160 Hanford Site variances, and as defined in subcontract releases under this Master Agreement. Note - this contract does not include well decommissioning performed by the "jet-shot" activities.

3.9 Waste Handling

A. Contractor shall be responsible for packaging and handling all wastes generated during construction and/or decommissioning, development, decontamination, and demobilization of the subject wells in accordance with the Waste Packaging/Labeling Instruction Sheet (WPLIS) provided by FH. FH shall affix appropriate markings/labels onto the containers once they are sealed, wiped, and moved away from the immediate work area by the Contractor. In cases where an overpack will be needed FH shall affix appropriate markings/labels onto the container/ overpack prior to the container going into the overpack. Care and measures will be taken as to not allow waste to get on the outside of the drum or inside the overpack. The container and overpack will be sealed, wiped, and moved away from the immediate work area by the Contractor. FH shall transport all regulated waste and purgewater away from the drill site. Typically waste management practice will be release specific instructions, and will be provided by FH. In addition the following will apply:

   1. All soil above the historic boundary of the aquifer may be considered clean, based upon process knowledge, proximal well data, etc., unless determined otherwise by field screening in accordance with appropriate waste decision documents. Clean soil will be collected on plastic sheeting. Soil found to be contaminated during field screening will be drummed in 55-gallon drums with 10-mil nylon-reinforced plastic liners, or other appropriate containers and stored neatly per WPLIS to be provided. The drummed spoils will be temporarily stored near the point of origin

on drum pallets. Miscellaneous solid waste shall be segregated and temporarily stored in a separate drum near the point of origin on drum pallets.

2. All soil below the historic boundary of the static water level will be initially containerized. The container shall be placed in a configuration to capture all water (including water from aquifer testing) and soil cuttings. All water will be separated from the soil, collected, and transferred into a FH-supplied purgewater truck operated by FH. The Contractor will package the cuttings in the appropriate containers supplied by FH. These containers will be stored neatly on drum pallets in the designated storage area as above.

3. The Contractor shall provide a forklift for waste relocation where necessary. The Contractor is responsible for handling waste containers and ensuring that the drums are appropriately placed onto pallets to include placing containers such that the markings and/or labels can be read from the walk-way and in accordance with the WPLIS at the well sites until transported to the appropriate central storage area(s) by FH.

4. Contractor is responsible to minimize waste generation.

5. Contractor shall, where possible, mark (with the words “non-regulated, date of generation, and well number”) and dispose of all non-regulated construction, well drilling, well development, and demobilization trash to include lunchroom-type garbage in accordance with the WPLIS.

6. For the soil cuttings containers, Contactor will package and move them to a waste accumulation area as specified by the BTR, in accordance with the Waste Packaging Instruction. Contractor shall wipe containers clean prior to marking/labeling by FH. Waste containers will be placed in an orderly manner in this area at the specific direction of FH.

7. All water resulting from equipment decontamination shall be handled in the following manner. The water shall be essentially clear and absent of mud and heavy silt prior to loading into the purgewater truck. The soil shall be containerized. The BTR shall decide whether or not a water absorbent (e.g., Water Works) needs to be added to containers to absorb excess water. All free water shall be disposed of in a FH provided and FH operated purgewater truck.

B. Contractor is also responsible to clean up all waste generated from spills (i.e., hydraulic fluid/oil/fuel). In the event of a spill, the Contractor shall immediately notify the BTR and clean up and properly package the material. FH is responsible for disposal of any spill waste cleanup that has contacted the ground soils. Contractor will be responsible for the disposal of spill cleanup wastes that have not contacted the soils.

C. Cleaning

The Contractor shall perform the following cleaning and demobilization activities:

1. The drill rig derrick, all down hole equipment and temporary casing (including casing and packers associated with aquifer testing) and / or high temperature and pressure washed (180 degrees F and >1,000 psi) with an approved cleaning solution such as Built Laundry Detergent, Smearaway, or Simple Green when directed by the BTR. The equipment is then rinsed with clean water before, after, and when necessary during construction of each well in a manner such that visible oils, grease, and dirt are removed.

2. All development and permanent sampling equipment shall be high temperature and pressure washed (180 degrees F and >1,000 psi) prior to installation.

3. All decontamination and cleaning events shall be recorded on a Field Cleaning/Decontamination form (A-6003-684) and be submitted to the BTR prior to demobilization.

4. Contractor shall be required to construct a decontamination pad to collect decontamination rinsate, dirt, grease, oil, etc.

5. Contractor shall notify BTR 24 hours prior to decontamination of equipment in order to arrange rinsate transport.

3.10 Handling and Storage of Materials

A. Contractor shall use all means necessary to protect well construction materials before and during installation. All materials shall be stored in their original containers until needed for construction as required by HNF-23100, Section 2305; “Material Handling and Storage.”
B. Personnel handling the portion of the permanent screen or casing that will be placed into the aquifer shall wear clean cotton or latex gloves.

3.11 Waste Management Specification for Loading 55-Gallon Drum/Overpack Units

The Contractor shall utilize one of the following methods, as appropriate when dealing with soil spoils/slurries from the wells.

A. For non-contaminated soils and as directed by the BTR, place spoils at the FH designated spoil pile.
B. For contaminated vadose zone and historical saturated zone (dry) soils.

1. FH will provide to the contractor, without cost, the following:

   - 55-gallon waste drum(s) for miscellaneous solid waste (MSW), and soil spoils.
   - Pallets
   - Drum waste labels and corresponding waste management forms.

2. Contractor shall place the 55-gallon drum on top of the pallet.

3. Contractor shall position the plastic waste liner inside the 55-gallon drum.

4. Contractor shall collect and place soil spoils inside the waste drum.

5. The bold portion of the waste inventory sheet (Site Form A-6003-850) as to content of drum shall be completed by the Contractor. The non-bold portion of the waste inventory sheet shall be completed by FH.

   NOTE: The Contractor is not assuming waste generator liability by its involvement in this process, but is a witness to the general description of what is placed in the drum.

6. Contractor shall obtain FH's Waste Management or BTR concurrence before sealing drum.

7. Contractor shall seal drum(s) and clean drum/overpack exteriors.

8. Contractor shall move drums to a temporary waste storage zone established at the construction site.

9. FH will remove drums from the construction site.

10. Contractor shall not leave drum lids unsecured overnight, or while not working.

C. For overpacking contaminated soils/slurries (Method 1, if required):

1. FH will provide to the contractor, without cost, the following:

   - 55-gallon waste drum(s) for purge water, MSW, and soil spoils,
   - Overpack plastic containers,
   - Pallets,
   - Absorbent materials,
   - Drum/overpack waste labels and corresponding waste management forms.

2. Contractor shall place the 55-gallon drum inside the overpack on top of the pallet.

3. Contractor shall position the plastic waste liner inside the 55-gallon drum.

4. As soil is brought to the surface, the Contractor shall collect excess water in purge water waste drum(s).

5. Contractor shall collect and place soil spoils/slurries inside waste drum.

6. Contractor shall add absorbent material to soak up free liquids when directed to do so by FH's Waste Management or BTR.

7. The bold portion of the waste inventory sheet (Site Form A-6003-850) as to content of drum/overpack shall be completed by the Contractor. The non-bold portion of the waste inventory sheet shall be completed by FH

NOTE: The Contractor is not assuming waste generator liability by its involvement in this process, but is a witness to the general description of what is placed in the drum.

8. Waste labels will be added to drum(s) by FH.

9. Contractor shall obtain FH's Waste Management or BTR concurrence before sealing drum.

10. Contractor shall seal drum(s) and clean drum/overpack exteriors.

11. Contractor shall move drums to a temporary waste storage zone established at the construction site.

12. FH will remove drums and overpack from construction site.

13. Contractor shall not leave drum lids unsecured overnight, or while not working.

D. For overpacking contaminated soils (Method 2)

1. FH will provide to the contractor, without cost, the following:
    - 55-gallon waste drum(s) for purge water and soil spoils,
    - Overpack plastic containers,
    - Pallets,
    - Absorbent materials,
    - Drum/overpack waste labels and corresponding waste management form.
2. As soils are brought to the surface, the Contractor shall collect excess water in purge water waste drum(s).

3. Contractor shall position the plastic waste liner inside the 55-gallon drum.

4. Contractor shall collect and place soil spoils/slurries inside the waste drum.

5. Contractor shall add absorbent material to soak up free liquids when directed to do so FH's Waste Management or BTR.

6. The bold portion of the waste inventory sheet (Site Form A-6003-850) as to content of drum/overpack shall be completed by the Contractor. The non-bold portion of the waste inventory sheet shall be completed by FH

    NOTE: The Contractor is not assuming waste generator liability by its involvement in this process, but is a witness to the general description of what is placed in the drum.

7. Drum/overpack waste labels will be added to drum(s) by FH.

8. Contractor shall obtain FH's Waste Management or BTR concurrence before sealing drum.

9. Contractor shall seal drum(s) and clean drum/overpack exteriors.

10. Contractor, using FH approved material handling equipment, shall place 55-gallon saturated soil spoils drum(s) in the overpack plastic container(s).

11. Contractor shall move drums to a temporary waste storage zone established at the construction site.

12. FH will remove drums and overpack from the construction site.

13. Contractor shall not leave drums lids unsecured overnight, or while not working.

3.12 Delivery of Materials, Supplies, and Coordination of Subcontractors

Regarding deliveries of materials and supplies, or and the Coordination of Subcontractors while on the FH Site, the Contractor shall:

A. Coordinate work, or delivery with supplier in advance.
B. Arrange for badging through the Contract Officer.
C. Communicate any special hazards associated with the delivery or the work (e.g., safety, security)
D. Meet the supplier or subcontractor at the designated rendezvous point. The individual designated to meet the supplier or subcontractor is called the DPOC or POC (Delivery Point of Contact, or Point of Contact)
E. Escort the delivery vehicle to the specified offload or work location.
F. Conduct a pre-delivery walk down of the offload or work location prior to commencing delivery or work.
G. Be physically present at the delivery site for the entire time the actual delivery or work is being executed to ensure that it is performed safely and in accordance with Contract requirements. Alternate arrangements may also be made only with the approval and concurrence of the FH BTR, and are subject to a hazard evaluation and review by FH.
H. At completion of the delivery or work, direct the supplier to exit the Site in a timely manner.

3.13 Demobilization

The following activities shall be performed by the Contractor for demobilization:

A. The drill rig derrick, all down hole equipment, and temporary casing shall be field decontaminated (i.e., high pressure and temperature) using a FH-supplied or Contractor-prepared and FH-approved cleaning and decontamination procedure as required in June 1, 2000 (CNN 079435) variance to WAC prior to leaving the site.
B. Demobilize all equipment and materials from the site.

C. Submit water Well Reports per WAC 173-160-420 with a copy (including the transmittal letter from the contractor to Ecology) to the BTR within 30 days of well completion.

3.14 Work Excluded

Work specifically excluded is environmental permitting, geologic logging, monitoring for combustible and chemical contaminants, preparation of waste management instructions, industrial hygiene support, RCT support (Radcon), geophysical logging, and well deviation surveys to be conducted by FH or by OTHERS.

4.0 TECHNICAL REQUIREMENTS

All Work shall be performed in strict accordance with the national codes, specifications, drawings, exhibits, and any other documents, which by this reference are made a part of each contract release.

4.1 Technical Requirements

A. Codes and Standards

1. The Contractor shall perform work under the direction of the FH Site-Specific Health and Safety Plan for this particular project. This Health and Safety Plan was prepared by FH in accordance to the requirements of 29 CFR 1910.120.

2. The Contractor shall use ANSI Standard Z535.1 as guiding specifications during the work.

3. Protective Posts shall be located no more than 1 ft from the corner of the concrete pad and painted yellow (ANSI Standard Z535.1 [ANSI 1991]). This surface protection shall meet the standards of WAC 173-160-420.

4. The Contractor shall use WAC 173-160-420 and WAC 173-160-450.

5. Drilling and well construction shall be performed by a licensed driller per the Washington State Water Well Construction Act (1971) (RCW 18.104).

6. Work to and be knowledgeable of WAC 173-160, Part Two-General Requirements for General Requirements for Resource Protection Well Construction and Geotechnical Soil Borings. Attachment A shows at Typical Hanford site monitoring well.

7. The Contractor shall drill and construct the wells according to these technical specifications, and shall conform to Chapter 173-160, “Minimum Standards for Construction and Maintenance of Wells.” Well (annular) seals shall strictly abide by WAC 173-160-450, with the following changes or additions:

- The frost zone is conservatively set at 5 ft below surface. A 10-ft surface seal of cement grout shall be required.
- Bentonite used for sealing purposes shall be made from pellets or chunks consisting of only unhydrated, untreated (no surfactants, polymers or peptides) sodium bentonite, packaged and labeled.
- Cement grout shall be made from Portland cement (Type I or Type II), no more than 5% bentonite powder or granules, and potable water. Grout shall be placed by the use of tremmie pipe.

8. The following current version of the codes, standards, and requirements included below, are hereby incorporated into and made a part of this SOW. They shall have the same force and effect as if written into the body of the SOW.

Document No.	Title
WAC 173-160	Minimum Standards for Construction and Maintenance of Wells (as modified by 4.1.G above)
RCW 18.104	Washington State Water Well Construction Act / Water Well Construction
ANSI Z535.1	American National Standard for Safety Color Code
29 CFR 1910.120	Hazardous Waste Operations and Emergency Response
DOE Order 414.1A, Change 1	Quality Assurance
DOE/RL-92-36	Hanford Hoisting and Rigging Manual.
Waste Packaging Instruction	To be provided
Site Form A-6003-684,	Field Cleaning and Decontamination form (available from the BTR)
CNN079435	Variance to WAC
HNF-23100	Occupational Safety and Health Program Manual
HNF-PRO-081	Lock-out/Tag-out

9. Unless other specified or shown on the drawings, materials and field operations shall conform to the latest issue of the following codes and standards and shall apply to the extent indicated herein, including the following sections.

American Concrete Institute

- ACI 318, Building Code Requirements for Structural Concrete and Commentary

American Society for Testing and Materials (ASTM)

- ASTM A53-89a: Seamless Steel Pipe Type E or S, Grade B Schedule 40.
- ASTM C150-89: Standard Specification for Portland Cement.
- ASTM A242: Carbon Steel Casing.
- ASTM A109: Seamless Carbon Steel Casing, Schedule 40.
- ASTM A312-89a: Seamless and Welded Austenitic Stainless Steel Pipe.
- ASTM A312/a312M-92a: Seamless and Welded Austenitic Stainless Steel Pipe.
- ASTM A312: Stainless Steel Pipe.
- ASTM D420: Standard Practice for Investigating and Sampling Soil and Rock for Engineering Purposes.
- ASTM F480: Standard Specification for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR), Schedule 40 and Schedule 80.
- ASTM A778-82: Schedule 5 or 10 304/316 Stainless Casing, with Schedule 40 Flush Joint threaded couplings.
- ASTM C226-86: Specifications for Air-Entraining Additions for Use in the Manufacture of Air-Entraining Portland Cements.
- ASTM D1785: Standard Specification for Poly Vinyl Chloride (PVC) Plastic Pipe, Schedules 40, 80, and 120.
- Seamless and Welded Austenitic Stainless Steel Pipe.

American National Standards Institute (ANSI)

- ANSI Z53.1-1979: Safety Color Code for Marking Physical Hazards.

American Welding Society (AWS)

- AWS D1.1-90: Structural Welding Code – Steel.
- AWS A2.4-86: Standard Symbols for Welding, Brazing, and Nondestructive Examination.

Washington Administrative Code (WAC)

- WAC 173-160: Minimum Standards for Construction and Maintenance.
- WAC 173-162: Regulations and Licensing of Contractors/Operators.
- WAC 173-303: Dangerous Waste Regulations.

Occupational Safety and Health Administration (OSHA)

- 29 CFR 1910-120: Hazardous Waste Operations and Emergency Response (Section 0).

Federal Regulations and Guidance

- RCRA/40 CFR 264/265 Subpart F.
- CERCLA/Superfund Amendments and Reauthorization Act.
- Technical Enforcement Guidance Document (OSWER-9950.1).
- A Compendium of Superfund Field Operations Methods.

American Petroleum Institute (API)

- Specification 5A: Casing, Tubing, and Drill Pipe.

4.2 Work Management Requirements

Work will be managed using individual contract (well drilling) or task (well releases) issued by the Contract Officer (well drilling).

4.3 Acceptance Criteria

A. Acceptance Criteria for each well drilling contract release will be defined by the release.

B. All inspection of the Work required by governmental agencies shall be arranged by FH. Contractor shall request such inspection through FH only after the Work is ready for inspection.

5.0 PERSONNEL REQUIREMENTS

5.1 Training and Qualification

NOTE: "*" designated trainings, shall be completed prior to start of mobilization. All other requirements are to be scheduled at the first available opportunity, but are also required prior to performing the activity for which training is required.

A. The training listed below is required, and is provided by FH. Note however; that contract personnel are required to complete training prior to performing any activities that require the application of FH's Lock Out/Tag program, Hoisting and Rigging, and Fire-Watch type activities.

1. *Hanford General Employee Training, 2-4 hours,

2. *Ladder Safety (60-minute computer based training)

3. *Radiation Worker II Training, 3 days, or 1 day recertification course

4. Prior to respiratory use, Respiratory Protection (Medical Clearance by Advanced Medical; Training By FH; and Respirator Fit for APR, Hood, and PAPR by FH), 8 hours

5. *Firewatch Training, 3 hours

6. FH will provide and schedule a medical evaluation for each of the Contractor's personnel.

7. LockOut / Tagout, 8 hours

8. Hoisting and Rigging Training or Equivalent (with appropriate paperwork necessary to demonstrate equivalency) and On the Job Training, 2 days

9. Safety, Environmental, and Health Orientation for Contractors/Construction Supervisors (SEHOCS), 6.5 hours, for Contractor Supervisors and Safety Representatives only (FH EMPORTS Course Number #6004, Contact is Gloria Bodeker at 509-376-5042).

B. The following training is required, and is provided by the Contractor or Others.

1. *40-Hour Hazardous Waste Worker Training

2. *8-hour Hazardous Waste Supervisor Training for on-site supervisor.

3. *Forklift Certification, OJE is provided by FH.

4. *10-hour OSHA Construction Hazards Recognition Course for key supervisors (may be waived by FH H&S Representative)

5. *First-Aid/CPR. One member of the contractors on-site field team must be First-Aid/CPR qualified.

C. Contractors driller(s) shall be a licensed well driller per the Washington State Water Well Construction Act (1971), have a minimum of three years experience as a driller with at least one year of which was on a similar rig. The driller(s) will work to and be knowledgeable of WAC 173-160, ("Part Two-General Requirements for Resource Protection Well Construction and Geotechnical Soil Borings"). This requirement may be waived on a case by case basis by FH, provided the driller of record does meet this requirement, is available on site (on-location) as required by WAC 173-160, and the rig operator has a valid training license.

5.2 Security and Badging Requirements

A. The Contractor shall obtain at the Contractor's expense, facility clearance, and security badges for employees prior to obtaining access to the job site. FH will allow a reasonable time for Contractor employee check-in. A minimum of five days advance notice is needed for badging.

B. Contractor employees will be required to submit to vehicle searches, and to maintain, observe, and comply with hard hat and other safety requirement markings at job site location.

5.3 Site Access and Work Hours

A. Site access and work hours will be defined in the contract release for well drilling activities.

6.0 ENVIRONMENTAL, SAFETY, HEALTH, RADIATION PROTECTION, AND QUALITY REQUIREMENTS

The Contractor shall perform work safely, in a manner that ensures adequate protection for employees, the public, and the environment, and shall be accountable for the safe performance of work. The Contractor shall comply with, and assist FH in complying with Environmental, Safety, Quality and Health (ESQ&H) requirements of all applicable laws, regulations and directives.

The Contractor shall flow down ESQ&H requirements to the lowest tier subcontractor performing work on the Hanford site commensurate with the risk and complexity of the work.

6.1 Integrated Environment, Safety and Health Management (ISMS)

A. Integrated Safety Management Flowdown is required in accordance with Special Provisions SP-5 (SP-5). Due to complex and/or hazardous conditions associated with drilling work, the Contractor is required to prepare a Job Safety Analysis for each work activity to ensure that hazards are identified and controls established based on the scope of work and identified hazards.

B. The Contractor shall exercise a degree of care commensurate with the work and the associated hazards. The Contractor shall ensure that management of ES&H functions and activities is an integral and visible part of the Contractor's work planning and execution processes. As a minimum, the Contractor shall:

- Thoroughly review the defined scope of work;
- Identify hazards and ES&H requirements;
- Analyze hazards and implement controls;
- Perform work within controls; and
- Provide feedback on adequacy of controls and continue to improve safety management.

C. The Contractor shall apply principles listed in Section 2.1.E of SP-5.

6.2 Site Conditions and Known Hazards

Site conditions and project specific known hazards will be defined in each contract release.

6.3 Environmental Requirements

Typical environmental requirements include proper handling of wastes as specified in Section 3.9 Waste Handling, submittal of required documentation to the Washington

State Department of Ecology as specified in Sections 3.1 C, and 3.12 C and implementation of proper groundwater protection protocols as specified in the WAC 173-160.

6.4 Safety Requirements

A. The Contractor shall perform work on the Hanford Site in accordance with:

1. FH document HNF-23100, Occupational Safety & Health Program Manual, Rev. 1, including all sections as applicable for the work scope and manner of performance.

2. The provisions of FH Special Provision – On Site Services (SP-5)

3. The Site-Specific Health and Safety Plan prepared by FH.

NOTE: HNF-23100 is proprietary to FH and is provided for use in conjunction with this contract. The CD and all copies of the contents, electronic or printed, must be either returned or destroyed when no longer needed to support this contract. Unauthorized use, copying or distribution is prohibited.

B. Job Safety Analysis/Activity Hazard Analysis (JSA/AHAs) documents are required per HNF-23100. JSA/AHAs are prepared by the Contractor to address specific work activities and hazards associated with the specific work and to identify the controls necessary to eliminate or control the hazards. The Contractors final JSA/AJHA should reference FH's requirements for radiological control on the job (e.g., RWP, ERSTI) as well as safety per HNF-23100. The JSA should also be usable by Contractor personnel to aid them in the identification, control, and response of potential hazards and is not just a compliance document. To achieve the level of coordination desired, an iterative interaction with the BTR, FH Project Safety, and the Radiological Program Manager may be required to ensure proper radiological and safety planning and communication prior to the start of work. The following process will be used to facilitate this communication process.

1. The Contractor will submit one electronic copy of their JSA to the Contract Officer.

2. The FH Contract Officer will add to the Contractor's JSA an FH Supplier Document Submittal Form (SDSF) to track this action to ensure review and approval deadlines are communicated to all parties.

3. All JSA/AJHAs must be approved by the FH BTR, FH Project Safety, and FH Radiation Protection Manager. This will be coordinated by the Contract Officer and BTR.

4. The Contractor will follow the instructions on the Supplier Document Submittal Form, when directed by the Contract Officer to incorporate comments and to resubmit the JSA when necessary.

5. If it becomes necessary to meet to discuss FH safety or radiological controls, the Contract Officer will arrange the meeting.

6. When the JSA is approved, the Contract Officer will notify all parties.

C. The Contractor may provide its own safe work practices for review and approval by FH Project Safety in order to address a unique hazard when that hazard is not addressed or an additional specific safety practice is needed to augment the HNF-23100 practices.

D. Contractor personnel will be enrolled in the Hanford Occupational Medical Program via FH's Employee Job Task Analysis (EJTA). The EJTA will be completed by FH's OS&H representative. FH will provide and schedule a medical evaluation for each of the Contractor's personnel. The medical evaluation will include a respiratory fitness examination.

E. The Contractor shall designate a Safety Representative that is knowledgeable of occupational safety and health standards established by Federal and state regulation. The Safety Representative shall be responsible for initiating the safety program, ensuring job-site safety requirements and procedures are being accomplished, conducting safety inspections of work being performed, conducting weekly safety meetings and daily "take ten" safety meetings (10 minute minimum) with craft and subtier employees, and providing a weekly report to FH documenting safety activities. The Safety Representative will also be responsible for a continuing survey of its operations, to ensure that the probable causes of injury or accident are controlled and the operating equipment, tolls, and facilities are used, inspected, and maintained as required by applicable safety and health regulations.

F. The Contractor shall immediately notify the BTR and the Contract Officer of any injuries or incidents; to include damage to contractor-owned property or equipment.

G. The Contractor will supply all appropriate personal protective equipment needed by Contractor personnel. Safety Glasses with side shields, hard hats, and substantial footwear (i.e., no open toed or open heel shoes, no sandals) shall be worn when working on or near the work area.

H. The Contractor shall provide FH with a copy of all reports made to government agencies or insurance companies relating to jobsite accidents and injuries.

I. The Contractor shall initiate and maintain such permits and programs required by Occupational Safety and Health Administration (OSHA) and other local, state and federal regulations.

J. The Contractor must maintain a copy of all FH provided permits prior to commencement of work.

K. When the Contractor brings chemicals on site, the activity is subject to FH's *Chemical Management System Program*. The Contractor must fill out Form A-6003-412, *Chemical Inventory Worksheet* prior to contract award, (See attachment). The requirements of Special Provisions SP-5, *Special Provisions for On-Site Services*, Section 2.2 shall be followed.

L. Material Safety Data Sheets (MSDS) for hazardous chemicals (as defined by 29 CFR 1910.1200) which will be used during the work activity shall be provided to the BTR. The Contractor shall keep the list current, and shall provide the list to the assigned BTR when list has been updated.

M. Lock-out/Tagout performed by the Contractor shall be performed in accordance with HNF-PRO-081, and with the oversight of FH's Controlling Organization representative (See also Special Provisions, SP-5, *Special Provisions for On-Site Services).*

N. This work scope may require the contractor to use respiratory protection. Accordingly, the contractor must adopt and abide by the requirements of the Respiratory Protection program prescribed in document HNF-23100, Section 3008. The requirements for this program include the following services provided by FH; medical evaluation, fit testing, training, and the use of FH respirators.

O. Electrical Safety Requirements

(A88) Rev. 0 02/17/05

All electrical equipment and industrial control panels delivered or brought onto the site in performance of this contract must be labeled by an OSHA approved nationally recognized testing laboratory (NRTL) (e.g., Generators, Heaters, Lighting).

All electrical equipment installed as part of this contract must comply with the National Electric Code (NEC), NFPA 70 and where applicable ANSI C2 (NESC). The FH reserves the right to inspect electrical equipment and installations. Contractor is responsible for notifying FH when installations are available for inspection.

Electric motors shall be labeled to be in accordance with NEMA MG-1 or listed by an OSHA approved NRTL.

Electrical equipment and devices for which there is a NRTL listing category must be Listed or Labeled by UL or another OSHA approved NRTL.

1. The Canadian Standard Association (CSA) is not a recognized OSHA approved NRTL marking unless the label includes "US" or "NRTL".
2. The European Union CE Markings Directive 93/68EEC is not a recognized OSHA approved NRTL marking.
3. The International Electrotechnical Commission (IEC), IEC Standard 60529 for enclosures (IPxx), is not recognized as an acceptable OSHA approved NRTL label.

Electrical equipment for which there is no listing category must be evaluated or tested using a method submitted to and approved by FH prior to delivery of the equipment.

P. Safety and Refusal Rights

It is the contractor's sole responsibility to determine if drilling conditions are safe for its personnel and equipment. Therefore the contractor is required to stop work if its

personnel are perceived to be in danger, and to not persist in borehole advancement when doing so would likely cause damage to equipment. Under the later condition, or "refusal", the drilling contractor will not be compensated for the prorated drilling, sampling, and abandonment activities to the point of refusal.

Q. Well drilling equipment is to be maintained in a safe operating condition.

6.5 Radiation Protection Requirements

A. Radiological isotope of concern

Specific radiological issues will be described in the contract release.

B. Radiological requirements

1. Drilling activities for new wells evaluated as low radiological risk based on previous drilling and sampling of near by wells: Daily radiological control technician (RCT) and industrial hygiene technician (IHT) checks with field instruments will be performed. If at any point radioactive materials above specified action levels is encountered during drilling, work shall be stopped immediately. The Buyer's Technical Representative shall be contacted, by the RCT and a Radiological Work Permit will be prepared by FH to cover working with radiological contaminated soils and materials. In the event radiological contamination or perched water is encountered, drill casing diameter must be reduced to prevent dragging contamination down hole into a low-risk zone. If chemical contamination is encountered, work shall be stopped immediately, the BTR contacted and an appropriate chemical monitoring plan prepared by FH.

2. Items belonging to the Contractor that: a) were located in known or suspected contamination areas; or b) become contaminated at levels exceeding DOE O 5400.5 (1992), *Radiation Protection of the Public and the Environment*, Chapter II.5.c and Chapter IV, Table 2-2 values are subject to FH administrative controls. FH will determine if release back to the Contractor is possible. If not possible, the Contractor will be compensated for items taken.

6.6 Crane and Rigging

A. The Contractor shall ensure that drilling/well construction operation is conducted in compliance with the applicable sections of the Hanford Site Hoisting and Rigging Manuel (DOE/RL-92-36). The applicable sections are, at minimum, Chapter 2.0: "Responsibilities;" Chapter 4: "Personnel Qualification & Training Requirements;" Chapter 6: "Forklift Trucks;" Chapter 9: "Slings;" Chapter 10: "Rigging Hardware;" Chapter 11: "Below-the-hook Lifting Device;" Chapter 12: "Hoists, Jib Cranes and Monorail Systems."

B. Minimum expectations include 1) structural calculations demonstrating the safety of the load path; 2) documentation of lift tests per the requirements of the Hoisting and

Rigging Manual; 3) appointment of a responsible equipment custodian; 4) maintaining required inspection documentation.

6.7 Fire Prevention

All welding, cutting and grinding operations will be conducted under a Hot Work Permit provided by the BTR.

6.8 Nuclear and Criticality Safety

Typically there are no nuclear or criticality safety issues. When applicable this will be defined in the contract release.

6.9 Quality Assurance and Control

A. For the purpose of FH, this work is Quality Level 3.

B. This work is non-nuclear related in nature.

C. The Contractor is responsible for the achievement and quality verification of the activities performed completing the described work scope. Compliance with the codes, standards and requirements specified in this statement of work is the responsibility of the Contractor.

D. The Contractor shall perform work under the direction of their company Quality Assurance Program.

E. Plans, procedures, and engineering documentation shall be controlled in accordance with the Contractor's and Lower-tier Subcontractor's Quality Assurance Program which may be reviewed by FH.

F. Third party as referred in this document shall be a lower-tier subcontractor qualified per ASTM E-329, Agencies Engaged in the Testing and / or Inspection of Materials Used in Construction.

G. Fluor Hanford reserves the right to make inspections at any time at the source of supply of materials.

H. All items and processes are subject to review, inspection or surveillance by FH.

I. Equipment requiring calibration shall be periodically calibrated to assure reliable results.

J. Contractor shall be responsible for the performance of all inspection and testing activities as specified in the Contractor's submittal "Quality Assurance Program," provided to FH for approval if accordance with this RFP.

6.10 Quality Assurance/Inspection Requirements

A. Quality Assurance Program Submittal and Pre-Award Survey

The Offeror shall submit the quality assurance program manual that confirms to the contract requirements, codes and standards as specified above, and that addresses the quality assurance programs identified herein. The formal submittal documentation (cover letter) shall identify the specific bid request and project.

If the Offeror's manual has been previously approved by FH, the manual shall be updated to make it current and resubmitted to FH with the proposal. If the manual has not changed since its previous approval by FH, a statement to this effect shall be submitted with the proposal. FH shall evaluate the Offeror's Quality Assurance program prior to contract award. This evaluation may include a survey of quality program implementation at the Offeror's facilities. If a program change is required, it will be identified to the Offeror prior to contract award. A deficient or inadequate program may be used as the basis to deny award of this contract.

The following Contractor quality assurance program requirements shall be addressed by the Offeror's proposal:

1. Quality Management Program: A written Quality Assurance Program (QAP) shall be developed, implemented, and maintained. The QAP shall describe the organizational structure, functional responsibilities, levels of authority, and interfaces for those managing, performing and assessing the work. The QAP shall describe management processes, including planning, scheduling, and resource considerations.

2. Quality Training & Qualification. Personnel shall be trained and qualified to ensure that they are capable of performing their assigned work. Personnel shall be provided continuing training to ensure that job proficiency is maintained.

3. Quality Improvement. Processes to detect and prevent quality problems shall be established and implemented. Items, services, and processes that do not meet established requirements shall be identified, documented, controlled, and corrected according to the importance of the problem and the work affected. Correction shall include identifying the causes of problems and working to prevent recurrence. Item characteristic, process implementation, and other quality-related information shall be reviewed and the data analyzed to identify items, services, and processes needing improvement.

4. Documents & Quality Records. Documents shall be prepared, reviewed, approved, issued, used, and revised to prescribe processes, specify requirements, or establish design. Records shall be specified, prepared, reviewed, approved, and maintained.

5. Work Processes. Work shall be performed to established technical standards and administrative controls using approved instructions, procedures, or other appropriate means. Items shall be identified and controlled to ensure their proper use. Items shall be maintained to prevent their damage, loss, or deterioration. Equipment used for process monitoring or data collection shall be calibrated (as appropriate) and maintained.

6. Design. Not applicable.

7. Procurement. Procured items and services shall meet established requirements and perform as specified. Prospective Contractors shall be evaluated and selected on the basis of specified criteria. Processes to ensure that approved Contractors continue to provide acceptable items and services shall be established and implemented.

8. Inspection and Tests. Inspection and testing of specified items, services and processes shall be conducted using established acceptance and performance criteria. Equipment used for inspections and tests shall be calibrated (as appropriate) and maintained.

9. Management Assessment. Managers shall assess their management processes. Problems that hinder the organization from achieving its objectives shall be identified and corrected.

10. Independent Assessment. Not applicable.

B. Technical and inspection verification documents shall be submitted to FH in accordance with the procurement document. All quality related documents shall be made available for examination by FH. No quality related documents shall be destroyed or otherwise disposed of without the written permission of FH until all items required by the contract have been delivered to FH and the Contractor has received final payment.

C. All work, materials, testing and documentation under this procurement are subject to surveillance by FH. This surveillance shall in no way relieve the Contractor of any contractual responsibilities. Surveillance may include inspection, survey or assessment. FH or their designees shall be given free access to the Contractors operation to perform surveillance.

D. Nonconformance Documentation and Reporting

All nonconformances identified at the job site with a proposed disposition of “Accept” or “Repair” shall be approved by the Contract Officer before any corrective action is taken by the Contractor on the nonconformance.

Accept: A disposition that a nonconforming item will satisfactorily perform its intended function without repair or rework.

Repair: A disposition requiring the processing of a nonconforming item so that its characteristics meet the requirements listed in the disposition statement of the nonconformance report.

Nonconformances shall be documented by the Contractor on the Contractor's nonconformance form or on an Engineering Procurement Waiver (Form # A-7400-174), which is provided by FH. After documenting the nonconformance, disposition and technical justification, the form/waiver shall be forwarded to FH.

After the recommended disposition has been evaluated by FH, the form/waiver shall be returned to the Contractor with a disposition of approval or rejection. The Contractor may take corrective action on the nonconformance only after the form/waiver is approved.

The approved Engineering Procurement Waiver or Contractor's nonconformance form shall be shipped with the affected item.

E. Repair and Calibration Services

When repair and calibration services are required, the Contractor shall perform the repairs in accordance with the manufacturer's instructions. The report of calibration shall include:

1. Actual calibration or test data
2. The as-found data or condition
3. As-left data (after repair and calibration, before leaving the Lab) if different than the as-found data
4. The scope and description of repairs completed or attempted, if applicable.
5. The instrument identification or serial number

The report shall be signed by the Contractor's authorized representative.

One copy of the documentation, unless otherwise specified, shall accompany the applicable item(s) shipped.

F. Contractor Furnished Items

On request, the Contractor shall obtain the items on this Contract directly from the original manufacturer. The Contractor shall provide legible and reproducible documentation, with the delivery, that provides objective evidence that the items were provided by the original manufacturer. These may include the Contract to the original manufacturer, shipping documentation, or manufacturer invoice; each of which identifies the items obtained from the original manufacturer.

One copy of the documentation, unless otherwise specified, shall accompany the applicable item(s) shipped.

7.0 MEETINGS, SUBMITTALS AND PROJECT CONTROL REQUIREMENTS

7.1 Meetings

The Contractor shall interface with various FH (and other) organizations through FH's Contract Officer (or designated BTR for in-scope work), as required, or at points and frequency determined by the Contract Officer.

A. After contract award, the contractor shall participate in a Project Kickoff Meeting to be held at FH's Site. The time, date and agenda for the meeting will be provided to the Contractor by FH.

B. The person or persons designated by the Contractor to attend all meetings shall have all required authority to make decisions and commit Contractor to technical decisions made during meetings.

C. Other meetings may be required as work progresses.

D. Weekly Progress Meetings

1. At the weekly progress meeting, Contractor shall submit a written report showing actual man-hours expended versus planned and scheduled progress versus actual progress giving details of Work completed in relation to the approved schedule, together with a two (2) week "look ahead" which provides details of how the Work will be completed.

2. Contractor shall attend a weekly coordination meeting together with various contractors at the jobsite.

E. Labor Meeting Per the Site Stabilization Agreement

A pre-job conference will be held between FH, the appropriate Union(s), and the Contractor before work commencement at the site in accordance with the Site Labor Agreement (Article X, Section 6).

F. Pre-job / Monthly Safety Meetings

1. Additional monthly safety meetings for all craft employees shall be held during active work (2 hours / month).

7.2 Submittals

Submittal requirements will be defined on a contract release basis.

7.3 Interfaces and Restraints

A. BTR will be designated for each well drilling contract release.

B. Designation of BTR

The BTR is responsible for monitoring and providing technical guidance for this Contract and should be contacted regarding questions or problems of a technical nature. The BTR is also responsible for appropriate surveillance of the Contractors representative while on site. In no event, however, will an understanding or agreement, modification, change order, or any deviation from the terms of this Contract be effective or binding upon FH unless formalized by proper Contract documents executed by the Contracting Officer prior to completion of this Contract. On all matters that pertain to Contract terms, the Contractor shall contact the Contracting Officer specified within this Contract. When in the opinion of the Contractor, the BTR requests or directs efforts outside the existing scope of the Contract; the Contractor shall promptly notify the Contracting Officer in writing. The BTR does not possess any explicit, apparent or implied authority to modify the contract. No action should be taken until the Contracting Officer makes a determination and/or modifies the contract.

C. The following requirements are in effect.

1. The work will be inspected daily by the BTR.

2. The Contractor shall submit an FH Monthly Accident Experience Report (MAER) by the 3rd day of each month, to the Contract Officer and FH's OS&H.

3. Legible copies of all Safety and Health Inspections on a monthly basis to the BTR.

4. Prior to the start of work, the Contractor and all its subcontractors shall submit documentation of successful completion of all training, and Hanford required courses defined by Section 5.1 of this SOW and certification that all training is current.

5. Certification in writing that all equipment to be used on the project site meets applicable Federal, State (if applicable), and Company safety requirements.

6. Prior to the start of work, the Contractor shall submit copies of hoisting and rigging equipment inspection and maintenance records required by DOE-RL-92-36, Hanford Site Hoisting and Rigging Manual.

8.0 PERFORMANCE SCHEDULE

A. Performance schedule will be defined on a contract release basis.

B. The Contractor shall notify the BTR of changes in the planned work schedule.

C. The Contractor shall observe plant closure days, unless otherwise directed by the Contract Officer.

End of Part I – Statement of Work

Attachment A: Typical Hanford Site Monitoring Well Construction.